

Health Brief

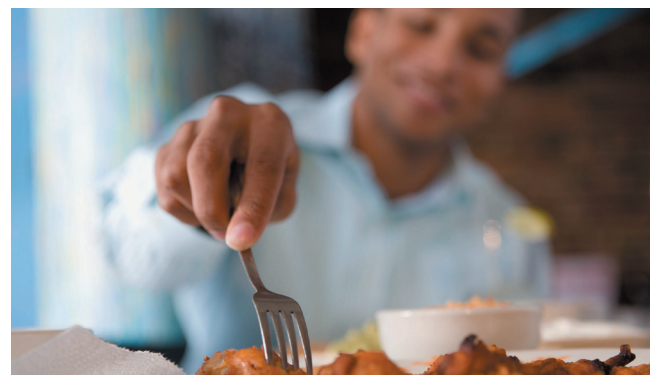
Heartburn and GERD

The more you know about health issues—and your own health in particular—the better you can take care of yourself. This *Health Brief* provides basic health information. To learn more about this topic, please consult your doctor or pharmacist.

Most people have had heartburn at one time or another. It is often experienced as a burning discomfort in the chest, just behind the breastbone. For many, simple lifestyle changes take care of the problem. But 60 million people are affected by heartburn at least once a month. And for some 25 million Americans, heartburn is a daily occurrence. Frequent heartburn may be a symptom of a condition known as gastroesophageal reflux disease (GERD). Your doctor can diagnose GERD and recommend appropriate prescription or over-the-counter (OTC) medication treatment. If untreated, GERD can lead to serious complications related to the esophagus, the tube that connects the mouth and the stomach.

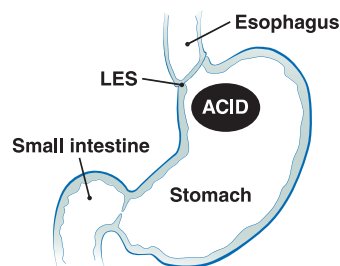
Heartburn and GERD: What's the Difference?

Gastroesophageal refers to the stomach and esophagus. Reflux means to flow back. Heartburn occurs when stomach acid and food flow out of the stomach and back up the esophagus, as shown



in Figure 1. Stomach acid is very irritating to the esophagus. A valve called the LES (lower esophageal sphincter) normally keeps stomach acid out of the esophagus. When the LES relaxes or doesn't open the right way when swallowing food, reflux may occur.

Figure 1: Where Reflux Occurs



Occasional heartburn is common and predictable. It can usually be managed by avoiding certain foods or activities and taking OTC medications, which are available without a prescription.



Frequent heartburn may be a symptom of GERD, which can be a lifelong condition. With GERD, episodes of heartburn may become less frequent or severe at times or even disappear for a period of weeks or months but they almost always return.¹ The good news is that GERD can usually be well controlled with lifestyle changes and medication.

If it goes untreated, however, GERD may lead to severe complications, including inflammation and ulcers in the esophagus lining, bleeding, and narrowing of the esophagus, making it difficult to swallow. Also, there is an uncommon complication called Barrett's esophagus, which is associated with a slightly increased risk of cancer of the esophagus. Your doctor can tell you if you should be tested for Barrett's esophagus.

Risk Factors

Anyone can develop GERD, including children. Conditions that increase the risk include the following:²

- *Diabetes.* In some people with diabetes, the stomach takes too long to empty. Stomach contents can then regurgitate, or move upward, into the esophagus.
- *Hiatal hernia.* This occurs when part of the stomach bulges into the lower chest, which weakens the LES muscle.
- *Obesity.* The pressure of extra weight on the stomach and nearby muscles can force open the LES, allowing acid to reflux into the esophagus.
- *Peptic ulcer.* A sore or scar near the valve between the stomach and the small intestine can keep food from emptying as fast as it should, causing stomach acid to reflux into the esophagus.
- *Pregnancy.* Pressure on the stomach and changing hormone levels can trigger heartburn symptoms, which usually go away when the pregnancy ends.

Certain medications may cause or worsen heartburn, as shown in Table 1:³

Table 1: Medications That May Cause or Worsen Heartburn

Condition for which Medication Is Prescribed	Generic Name	Brand Name
Anxiety, insomnia, and depression	amitriptyline	Elavil®
	diazepam	Valium®
	lorazepam	Ativan®
Asthma	formoterol	Foradil®
	prednisone	Deltasone®
	salmeterol	Advair®, Serevent®,
	theophylline	Theo-Dur®, Theolair®
Cancer	(various)	(various)
Heart disease and high blood pressure	atenolol	Tenormin®
	diltiazem	Cardizem®
	nifedipine	Procardia®
	nitroglycerin	Nitrostat®
	prazosin	Minipress®
	propranolol	Inderal®
Osteoporosis	alendronate	Fosamax®
	ibandronate	Boniva®
	risedronate	Actonel®
Pain and inflammation	celecoxib	Celebrex®
	ibuprofen	Advil®, Motrin®, Nuprin®
	naproxen	Aleve®, Naprosyn®
Parkinson's disease and muscle spasms	dicyclomine	Bentyl®
	glycopyrrolate	Robinul®
	levodopa	Sinemet®

If you suspect that your medications are contributing to heartburn or GERD symptoms, talk to your doctor. Your doctor may recommend switching to a different medication or adding a medication to treat heartburn. Don't stop taking a medication that has been prescribed for you before talking to your doctor.

Symptoms and Diagnosis

Heartburn usually feels like a burning chest pain beginning behind the breastbone and moving upward to the neck and throat. You may notice an acidic or bitter taste in the mouth. It may feel like food and liquid are coming up your throat, especially when you are bending or lying down. You may feel like something is stuck in your throat. These symptoms may last minutes or hours and are usually worse after eating.

You probably know by now that heartburn has nothing to do with your heart. But severe heartburn pain may be similar to the pain of a heart attack or angina (heart-related chest pain). Sometimes a medical exam is needed to tell the difference. Table 2 lists some possible differences in the signs and symptoms of the two conditions.

Table 2: Heartburn and Heart Attack—Signs and Symptoms⁴

Possible Signs of Angina or Heart Attack
<ul style="list-style-type: none">• Feeling of fullness, tightness, or dull crushing pressure or pain, usually in the middle of the chest• Often occurs with activity or exertion• Pain may spread to the shoulders, neck, arms, or jaw• Irregular pulse (sometimes)• Cold sweat and shortness of breath• Nausea or vomiting• Lightheadedness, weakness, or dizziness
Possible Signs of Heartburn
<ul style="list-style-type: none">• Sharp, burning sensation just below the breastbone or ribs• Pain usually does not radiate to the shoulders, neck, or arms (but it can)• Pain usually comes after meals• Symptoms usually resolve quickly with antacids• Rarely involves cold sweat, shortness of breath, lightheadedness, or dizziness

If you have chest pain that lasts for more than a few minutes—or any warning signs of a heart attack—it is important to seek immediate medical attention.

Other signs and symptoms of GERD include:

- Asthma-like symptoms such as wheezing. As many as 70 percent of people with asthma also have GERD. Acid reflux may worsen asthma symptoms. The relationship between asthma and GERD is not well understood.⁵
- Chronic cough
- Difficulty swallowing
- Excessive clearing of the throat
- Feeling of lump in throat
- Hoarseness
- Persistent sore throat

It is important to know that GERD is not always accompanied by heartburn. Instead, some people may only experience one or more of the symptoms listed above. Even if you do not experience “typical” heartburn, it is important to continue taking the medications your doctor prescribed for your condition. This will help prevent new symptoms from developing.

Doctors may diagnose GERD based on the frequency and severity of your symptoms alone. If your symptoms respond to lifestyle changes and medication, often no formal testing is necessary. Otherwise, you may need to undergo one or more procedures that allow a doctor to examine your esophagus or measure the amount of acid that refluxes into your esophagus.

Lifestyle Changes

Lifestyle changes can go a long way toward reducing the frequency and severity of your heartburn symptoms.

- Learn which foods and beverages trigger your heartburn and avoid them. Common dietary triggers are listed in Table 3.

Table 3: Common Dietary Triggers

<ul style="list-style-type: none"> • Alcohol • Caffeine • Carbonated drinks • Chocolate • Citrus fruit and juices • Coffee • Fried and fatty foods • Garlic 	<ul style="list-style-type: none"> • Mustard • Onions • Peppermint • Peppers • Spearmint • Spicy foods • Tomato products • Vinegar
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- Avoid large meals.
- Wait for two to three hours after you eat before lying down.
 - When you do lie down, you may have better results lying on your left side rather than your right side due to the shape of the stomach and the direction in which it empties.
- Don't wear tight-fitting clothes or belts.
- If you are overweight, losing weight can help relieve your symptoms.
- Don't smoke. Smoking relaxes the LES, causing stomach acid to reflux into the esophagus.
- Elevate the head of the bed 4 to 6 inches.
 - Place blocks under the head of the bed or sleep with your upper body on a wedge.
 - Don't use extra pillows to elevate your head; that won't help because it doesn't raise your esophagus.
- Avoid bending from the waist; bend at your knees, instead.
- Try chewing sugarless gum, which stimulates the production of saliva. Saliva contains natural acid reducers. Avoid mint-flavored gum because mint can trigger heartburn symptoms; instead, choose fruit flavors.

Types of Medications

Many people are confused by the number of medication choices for heartburn symptoms and the conflicting claims about how quickly and effectively they work. Most of the prescription and OTC medications that are used to treat heartburn and GERD can be divided into three classes, or types: antacids, H₂ blockers, and proton pump inhibitors (PPIs). Many of these medications are available in a variety of forms, such as chewable

tablets, liquids, capsules, granules, or dissolving tablets. Each has a role in prevention and treatment of heartburn and GERD symptoms.



Antacids

Antacids provide effective relief for people who have mild to moderate heartburn symptoms. They are rarely adequate treatment for those who have frequent heartburn or GERD. Most antacids are available without a prescription. Antacids work by neutralizing stomach acid. They start working very quickly—within 5 to 15 minutes. But they are short-acting—relief may last just an hour. And they do not prevent heartburn.

Antacids may contain aluminum, magnesium, or calcium, as shown in Table 4. (Although brand-name products are listed in the table, generic products that can provide the same benefit at a lower cost are also available.) Side effects of antacids that contain magnesium may include diarrhea; those that contain aluminum or calcium may cause constipation. Some antacids contain both aluminum and magnesium to help balance these effects on your digestive system. It's important to know that antacids may interact with certain medications. Be sure to let your doctor and pharmacist know if you use antacids, to help prevent interactions with other medications you are taking. To help prevent medication interactions, antacids should be taken at least two hours apart from other medications.

Table 4: Antacids

Calcium-based
<ul style="list-style-type: none"> • Caltrate® • Rolaids® • Tums®
Aluminum-based
<ul style="list-style-type: none"> • Amphojel®
Magnesium-based
<ul style="list-style-type: none"> • Phillips® Milk of Magnesia
Combination aluminum- and magnesium-based
<ul style="list-style-type: none"> • Gaviscon® • Maalox® • Mylanta® • Riopan®

Some antacids contain sodium bicarbonate in combination with a pain reliever such as aspirin (Alka-Seltzer®). If you have been diagnosed with high blood pressure, kidney disease, heart failure, or are limiting your sodium intake for any reason, be aware that sodium bicarbonate products and some other antacids contain high amounts of sodium.

Another longstanding heartburn remedy is bismuth subsalicylate (Pepto-Bismol®) which coats the esophagus and serves as a barrier to acid. People who are allergic or sensitive to aspirin should not use Alka-Seltzer, Pepto-Bismol, or any other aspirin-containing products. If you have any questions about whether an OTC product contains aspirin, ask your pharmacist. (If you have been diagnosed with an ulcer, check with your doctor before taking any pain relief medications.)

If you have diabetes, check the sugar content in antacid products and look for sugar-free versions. The best time to take antacids is approximately one hour after meals or just before reflux symptoms typically begin after a meal. Taking antacids before meals is not a good idea because their effect doesn't last as long on an empty stomach. You may take a second dose approximately two hours after a meal.

H2 Blockers

All medications in this class are now available without a prescription. If OTC medications are not providing enough relief, there are prescription strengths available. Table 5 lists the prescription-strength and OTC product names of H2 blockers. Rather than neutralizing acid, as antacids do, H2 blockers reduce the *production* of acid by the stomach. It takes H2 blockers about 30 minutes to work—longer than antacids—but they can prevent reflux for hours. H2 blockers work by blocking a naturally occurring substance called histamine, which stimulates acid secretion. (These medications are completely different from the more familiar antihistamines that are used for cold and allergy symptoms.) Unlike antacids, H2 blockers are most effective when taken before meals and *before* symptoms begin, rather than after. Some prescription H2 blockers are available in liquid form or as dissolving tablets, which start working faster.

Table 5: H2 Blockers

Generic Name	Prescription Name	OTC Name
nizatidine	Axid®	Axid® AR
famotidine	Pepcid®	Pepcid® AC
cimetidine	Tagamet®	Tagamet® HB
ranitidine	Zantac®	Zantac® 75
famotidine, calcium carbonate, and magnesium hydroxide (Combination antacid and H2 blocker)	(none)	Pepcid® Complete

PPIs

For frequent or severe heartburn or GERD, your doctor may prescribe a PPI, as shown in Table 6. These medications decrease acid secretion more than H2 blockers do by blocking the body's "pump" that is responsible for producing acid. This results in long-lasting acid control. PPIs should be taken 30 minutes before the first meal of the day. Symptom relief should start within a few days. It's important to take PPIs every day because they will not be effective otherwise. PPIs are well-tolerated

by most people but side effects can include headache, diarrhea, and upset stomach.

Prilosec OTC (omeprazole) is the first PPI to become available without a prescription. It can provide 24-hour relief of frequent heartburn when taken daily as directed for 14 days. If you continue to experience heartburn symptoms or you have been diagnosed with GERD, your doctor may recommend that you continue long-term treatment with omeprazole or other PPIs.

Table 6: PPIs

Generic Name	Brand Name
rabeprazole	Aciphex®
esomeprazole	Nexium®
lansoprazole	Prevacid®
omeprazole	Prilosec™ Prilosec OTC™
pantoprazole	Protonix®

Other Prescription Medications

Other prescription medications used in the treatment of GERD include metoclopramide (Reglan®) and sucralfate (Carafate®). These medications may be used as “add-on” therapy in addition to H2 blockers and PPIs for people with severe GERD. If you are taking sucralfate in addition to lansoprazole, omeprazole, ranitidine, or antacids, wait at least 30 minutes after taking the other medication before taking sucralfate.

When to Call the Doctor

If your symptoms don't improve after taking the medication for the period of time prescribed, call your doctor. You should also call your doctor if you develop any of the following:

- Discomfort that affects your quality of life
- Hoarseness
- Pain when swallowing
- Unexplained weight loss
- Vomiting
- Wheezing
- Your symptoms change, get worse, or interfere with your normal activities

Seek medical attention immediately if you:

- Have black or bloody bowel movements
- Have chest pain and are uncertain whether it is due to heartburn
- Have difficulty swallowing
- Have extreme stomach discomfort
- Vomit blood

Summary

Many people experience an occasional bout of heartburn. However, if heartburn symptoms begin to interfere with your normal activities, talk to your doctor about medication therapy. Because heartburn and GERD symptoms can range from mild to intense, heartburn pain sometimes is mistaken for the pain associated with heart disease or a heart attack, but there are differences. It is important to visit your doctor to evaluate your heartburn symptoms and rule out a more serious health problem. Depending on the severity of your heartburn or other GERD symptoms, treatment may range from making some simple lifestyle and dietary changes to using OTC or prescription medication.

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